

and the like. In a method for manufacturing the semi-cured amino resin, an amino compound such as urea and melamine, or a derivative thereof is heated and refluxed under stirring in the presence of a catalyst with formaldehyde or a derivative thereof, and optionally phenol or a derivative thereof, so as to form a semi-cured amino resin such as urea formaldehyde resin, urea-phenol-formaldehyde resin, melamine-formaldehyde resin and melamine-phenol-formaldehyde resin. In the foregoing reaction, the molar ratio of formaldehyde or a derivative thereof (hereinafter designated as F) to the amino compound (hereinafter designated as M), i.e. F/M, is necessarily greater than 1.0, so as to initiate a cross-linking setting reaction in the condition of formaldehyde (F) acting as a cross-linking agent to be greater in amount than urea or melamine (M) in the resin. The ratio F/M can be within the range of from 1.0 to 6.0, preferably from 1.0 to 2.5. With the addition of phenol or a derivative thereof (hereinafter designated as P), the molar ratio ((P+F)/(M)) of a sum (P + F) of phenol or a derivative thereof and formaldehyde or a derivative thereof to the amino resin (M) is within the range of from 1.0 to 6.0, preferably from 1.0 to 2.5.--

On page 4, lines 8-14, please amend the paragraph as follows:

--The amino resin composition for mold cleaning of the invention therefore includes the foregoing obtained semi-cured amino resin having at least one methylol group, together with other thermosetting resin and additives, are stirred and mixed homogeneously in a semi-cured manner in a device such as a kneading machine, ball mill, tumble, rapid mixer and the like. Then, the mixture is charged into a roller, or a single- or double-shaft presser for kneading. After the semi-cured amino resin cross-links, it is cooled and pulverized into particles or powders by using a pulverizer, so as to obtain the amino resin composition for mold cleaning of the invention.--

On page 7, lines 16-22, please amend the paragraph as follows:

--310 weight part of melamine, 130 weight part of phenol, 540 weight part of 37% formaldehyde aqueous solution, and 5 weight part of calcium hydroxide were added into a flask. After the mixture was heated and refluxed under 80°C for 30 minutes, it was cooled to 45°C,

followed by heating and refluxing under 85°C for 60 minutes. Then, the reaction mixture was neutralized with 10% sodium hydroxide solution and dried under vacuum, so as to obtain a semi-cured amino resin of melamine-phenol-formaldehyde having 85% of solid content and gelation time of 4 minute and 30 second (measured under 150°C).--

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On page 7, lines 23-28, please amend the paragraph as follows:

--20 wt% of the semi-cured amino resin, 50 w% of melamine resin, 20 wt% of silica powder with mean particle size under 20 m, 1.82 wt% zinc stearate, 0.08 wt% of PEG400, 8 wt% of paper pulp, and 0.1 wt% of benzoic acid, based on 100 wt% total weight of resin composition, were homogeneously pulverized and mixed by a ball mill. Alternatively, other means could be used to pulverize and sufficiently homogenize and mix the components. A resin composition for cleaning molds was obtained...--

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On page 8, lines 2-8, please amend the paragraph as follows:

--25 wt% of the semi-cured type of melamine-phenol-formaldehyde amino resin as in example 1 and 10 wt% of paper pulp, based on 100 wt% total weight of resin composition, were mixed and kneaded to give the semi-cured mixture. Then 45.7 wt% of melamine resin, 17 wt% of silica powder with mean particle size less than 20 m, 1.8 wt% zinc stearate, 0.2 wt% of benzoic acid, and 0.2 wt% of CATINITTO were added to the mixture, to be then homogeneously pulverized, and mixed by a ball mill. Thereafter, 0.1 wt% of PEG400 was further added and subjected to a last stage of mixing. A resin composition for cleaning molds was obtained.--

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On page 8, lines 10-15, please amend the paragraph as follows:

--340 weight part of melamine, 100 weight part of urea, and 550 weight part of 37% formaldehyde aqueous solution were poured into a flask. After the mixture was heated and refluxed at a temperature of 70°C for 50 minutes, it was allowed to cool to 50°C, after which, it was heated and refluxed again at a temperature of 100°C for 100 minutes, then dried under a

vacuum. A semi-cured type of amino resin of melamine-phenol-formaldehyde having 85% of solid content and a gelation time of 5 to 6 minutes (measured under 150°C) was obtained.--

On page 8, lines 16-21, please amend the paragraph as follows:

--30 wt% of the semi-cured substance, 48 wt% of melamine resin, 20 wt% of silica powder with mean particle size less than 20 m, 1.8 wt% zinc stearate, 0.08 wt% of PEG400, 8 wt% of paper pulp, and 0.12 wt% of benzoic acid, based on 100 wt% total weight of resin composition, were homogeneously pulverized, kneaded and mixed by a ball mill. Alternatively, other means could be used to homogeneously pulverize and sufficiently mix the components. A resin composition for cleaning molds was obtained.--

On page 8, line 23 to page 10, line 1, please amend the text as follows:

--The same procedures as carried out in example 1 were repeated, except that 0.1 wt% of benzoic acid in example 1 was decreased to 0.01 wt%. A resin composition for cleaning molds was obtained.

Example 5

The same procedures as carried out in example 1 were repeated, except that 20 wt% of the semi-cured substance in example 1 was changed to 30 wt% and 50 wt% of melamine resin was changed to 40 wt%. A resin composition for cleaning molds was obtained.

Comparative Example 1

The same procedures as carried out in example 1 were repeated, but releasing agent, zinc stearate and PEG400, were not added and the amount of silica powder was changed to 21.8 wt%. A resin composition for cleaning molds was obtained.

Comparative Example 2

While the same procedures as carried out in example 1 were repeated, without the addition of releasing agent, zinc stearate, were not added. A resin composition for cleaning molds was obtained.

Comparative Example 3

While the same procedures as carried out in example 1 were repeated, releasing agent and, PEG400, were not added and the amount of silica powder was changed to 20.08 wt%. A resin composition for cleaning molds was obtained.

Comparative Example 4

While the same procedures as carried out in example 1 were repeated, the amount of releasing agent, zinc stearate, was increased to 11.72 wt%. As well, the amount of silica powder was changed to 15 wt%, and the amount of melamine resin was changed to 15 wt%. A resin composition for cleaning molds was obtained.

Comparative Example 5

While the same procedures as carried out in example 1 were repeated, the amount of releasing agent, zinc stearate, was changed to 0.72 wt% and the amount of silica powder was changed to 21 wt%. A resin composition for cleaning molds was obtained.

Comparative Example 6

The same procedures as carried out in example 2 were repeated, but 20 wt% of semi-cured type of amino resin was decreased to 10 wt% and 49 wt% of melamine resin was increased to 59 wt%. A resin composition for cleaning molds was obtained.